

Determination of Potential Agricultural Conservation Savings (Low End of Range)

Eastside San Joaquin River

Input Data from DWR

| | | |
|---------------------|-------|------------|
| Applied Water | 4,043 | (1,000 af) |
| Depletion | 2,885 | (1,000 af) |
| ET of Applied Water | 2,781 | (1,000 af) |

Assumptions for Calculations

| | |
|---|-----------------------------|
| 1. Ave. Leaching Fraction = | 4% |
| 2. % lost to Channel Evap/ET ³ = | 4% |
| 3. Assumed allocation of conservation betw District and On-farm district portion = 1/3 of savings * "adjustment factor" | |
| canal lining: | 0 |
| tailwater: | 0 (adjustment factor |
| flexibility: | 2 based on region variation |
| meas/price: | 0 in water districts) |

Calculations from Input Data

| | | |
|-----------------------------------|------------|--|
| | (1,000 af) | |
| Total Existing Losses | 1262 | (Diff betw. Applied Water and ETAW) |
| Total Irrecoverable losses | 104 | (Diff betw. Depletion and ETAW) |
| Total Recoverable losses | 1,158 | (Diff betw. Applied Water and Depletion) |
| Ratio of Irrecoverable Loss | 8% | (Irrecov divided by total existing losses) |
| Portion lost to leaching | 9 | (Leach Fraction * ETAW * Irrec. Loss Ratio * Adj. Factor) |
| Portion lost to Channel Evap/ET | 162 | (Applied Water * % lost to Channel Evap/ET) |
| Total Loss Conservation Potential | 1,091 | (Total Existing loss - portion to leaching - portion to channel evap/ET) |
| Irrecoverable Portion | 0 | (Irrec loss - portion to leaching - portion lost to channel evap/ET) |
| Recoverable Portion | 1,091 | (Total Existing loss - Irrecoverable Loss Portion) |

2 (points for this region's districts of 4 points for average)
0.5 = adjustment factor
17% = district portion
83% = on-farm portion

Incremental Distribution of Conservable Portion of Losses

| | | Distrib. Factor | Applied Water Reduction ¹ (1,000 ac-ft) | Irrec. Loss Reduction ² (1,000 ac-ft) | Rec. Loss Reduction (1,000 ac-ft) |
|-----------------------|-----------|-----------------|---|---|--------------------------------------|
| No Action Increment = | 1st 40% | 0.40 | 436 | 0 | 436 |
| CALFED Increment = | next 30% | 0.30 | 327 | 0 | 327 |
| Remaining = | final 30% | 0.30 | 327 | 0 | 327 |
| | | | 1,091 | 0 | 1,091 |

Summary of Savings:

Existing Applied Water Use = 4,043

Total Potential Reduction of Application

| (1,000af) | Existing | No Action | CALFED | Total |
|-----------|----------|-----------|--------|-------|
| On-Farm | -- | 364 | 273 | 637 |
| District | -- | 73 | 55 | 128 |
| Total | 1,262 | 436 | 327 | 764 |

Recovered Losses with Potential for Rerouting Flows

| (1,000af) | Existing | No Action | CALFED | Total |
|-----------|----------|-----------|--------|-------|
| On-Farm | -- | 364 | 273 | 637 |
| District | -- | 73 | 55 | 128 |
| Total | 1,158 | 436 | 327 | 764 |

Potential for Recovering Currently Irrecoverable Losses

| (1,000af) | Existing | No Action | CALFED | Total |
|-----------|----------|-----------|--------|-------|
| On-Farm | -- | 0 | 0 | 0 |
| District | -- | 0 | 0 | 0 |
| Total | 104 | 0 | 0 | 0 |

Notes:

1. Calculated as the distribution factor times the "conservable portion" of the total existing loss. The first 40% of savings potential occurs under *No Action*. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
2. Calculated as the distribution factor times the "conservable portion" of irrecoverable loss. The first 40% of savings potential occurs under *No Action*. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
3. Derived from comparing consumptive conveyance loss values from USBR *Least-Cost CVP Yield Increase Plan*, T.A #3 (Sept. 1995) to applied water values for the region. A range of 2 to 4% was used to account for uncertainty. This value accounts for consumption by bank and riparian vegetation and channel evaporation.

Determination of Potential Agricultural Conservation Savings (High End of Range)

Eastside San Joaquin River

Input Data from DWR

| | | |
|---------------------|-------|------------|
| Applied Water | 4,043 | (1,000 af) |
| Depletion | 2,885 | (1,000 af) |
| ET of Applied Water | 2,781 | (1,000 af) |

Assumptions for Calculations

| | |
|---|-----------------------------|
| 1. Ave. Leaching Fraction = | 2% |
| 2. % lost to Channel Evap/ET ³ = | 2% |
| 3. Assumed allocation of conservation betw District and On-farm district portion = 1/3 of savings * "adjustment factor" | |
| canal lining: | 0 |
| tailwater: | 0 (adjustment factor |
| flexibility: | 2 based on region variation |
| meas/price: | 0 in water districts) |

Calculations from Input Data

| | | |
|-----------------------------------|------------|--|
| | (1,000 af) | |
| Total Existing Losses | 1262 | (Diff betw. Applied Water and ETAW) |
| Total Irrecoverable losses | 104 | (Diff betw. Depletion and ETAW) |
| Total Recoverable losses | 1,158 | (Diff betw. Applied Water and Depletion) |
| Ratio of Irrecoverable Loss | 8% | (Irrecov divided by total existing losses) |
| Portion lost to leaching | 5 | (Leach Fraction * ETAW * Irrec. Loss Ratio * Adj. Factor) |
| Portion lost to Channel Evap/ET | 81 | (Applied Water * % lost to Channel Evap/ET) |
| Total Loss Conservation Potential | 1,177 | (Total Existing loss - portion to leaching - portion to channel evap/ET) |
| Irrecoverable Portion | 19 | (Irrec loss - portion to leaching - portion lost to channel evap/ET) |
| Recoverable Portion | 1,158 | (Total Existing loss - Irrecoverable Loss Portion) |

2 (points for this region's districts of 4 points for average)
0.5 = adjustment factor
 17% = district portion
 83% = on-farm portion

Incremental Distribution of Conservable Portion of Losses

| | | Applied Water | Irrec. Loss | Rec. Loss |
|-------------------------------|----------|------------------------|------------------------|---------------|
| | Distrib. | Reduction ¹ | Reduction ² | Reduction |
| | Factor | (1,000 ac-ft) | (1,000 ac-ft) | (1,000 ac-ft) |
| No Action Increment = 1st 40% | 0.40 | 471 | 7 | 463 |
| CALFED Increment = next 30% | 0.30 | 353 | 6 | 347 |
| Remaining = final 30% | 0.30 | 353 | 6 | 347 |
| | | 1,177 | 19 | 1,158 |

Summary of Savings:

Existing Applied Water Use = 4,043

Total Potential Reduction of Application

| (1,000af) | Existing | No Action | CALFED | Total |
|-----------|----------|-----------|--------|-------|
| On-Farm | -- | 392 | 294 | 686 |
| District | -- | 78 | 59 | 137 |
| Total | 1,262 | 471 | 353 | 824 |

Recovered Losses with Potential for Rerouting Flows

| (1,000af) | Existing | No Action | CALFED | Total |
|-----------|----------|-----------|--------|-------|
| On-Farm | -- | 386 | 290 | 676 |
| District | -- | 77 | 58 | 135 |
| Total | 1,158 | 463 | 347 | 811 |

Potential for Recovering Currently Irrecoverable Losses

| (1,000af) | Existing | No Action | CALFED | Total |
|-----------|----------|-----------|--------|-------|
| On-Farm | -- | 6 | 5 | 11 |
| District | -- | 1 | 1 | 2 |
| Total | 104 | 7 | 6 | 13 |

Notes:

1. Calculated as the distribution factor times the "conservable portion" of the total existing loss. The first 40% of savings potential occurs under *No Action*. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
2. Calculated as the distribution factor times the "conservable portion" of irrecoverable loss. The first 40% of savings potential occurs under *No Action*. The next 30% of saving potential is the CALFED increment. The final 30% is considered "non-conservable".
3. Derived from comparing consumptive conveyance loss values from USBR *Least-Cost CVP Yield Increase Plan*, T.A #3 (Sept. 1995) to applied water values for the region. A range of 2 to 4% was used to account for uncertainty. This value accounts for consumption by bank and riparian vegetation and channel evaporation.